

THILL-COUPLING.

Patented March 28, 1876.

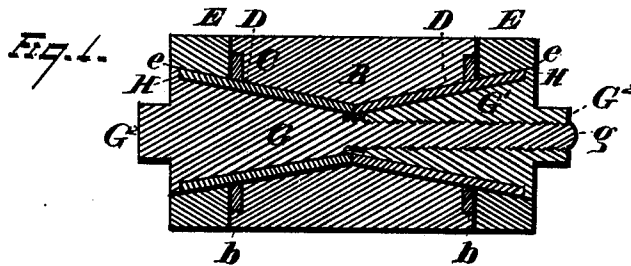
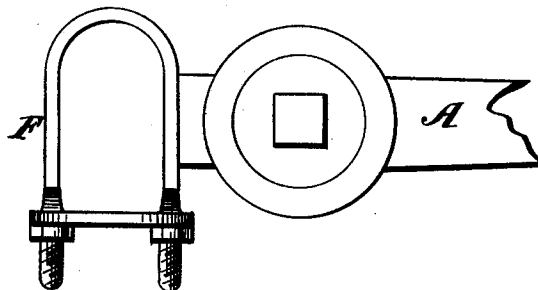


Fig. 2.



WITNESSES...

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INVENTOR

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UNITED STATES PATENT OFFICE.

WILLIAM C. SHIPHERD, OF CLEVELAND, OHIO, ASSIGNOR TO HIMSELF,
JOSEPH J. BROOKS, AND SAMUEL K. DAVIS, OF SAME PLACE.

IMPROVEMENT IN THILL-COUPPLINGS.

Specification forming part of Letters Patent No. **175,305**, dated March 28, 1876; application filed February 8, 1876.

To all whom it may concern:

Be it known that I, WILLIAM C. SHIPHERD, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Thill-Coupling; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification:

My invention relates to a new and improved thill-coupling; and consists, first, in forming the said coupling with a double conical bearing or journal fitting into a double conical eye in the shaft-iron, in connection with a leather or other packing, which covers the entire wearing-surface, and which receives the wear; second, in the employment, in combination with the double conical journal, corresponding eye, and interposed packing, of packing rings or washers between the sides of the shaft-iron and inner sides of the jaw, adjacent thereto.

In the drawing, Figure 1 represents a longitudinal section of the thill-coupling by a plane containing the axis of the double conical journal. Fig. 2 is a separate view in side elevation of my thill-coupling.

A is the thill or shaft iron, to which the thill or shaft is attached. B is the double head containing the double conical eye C. D are recesses for washers in the said head B. E are jaws which receive the head B of the shaft-iron, and are secured in any suitable manner to the axle, as, for instance, by a clip, F. e are double conical eyes in the jaws E. G is one portion of the double conical journal. G¹ is the other portion. A screw-cut stem, g, projects from the portion G, through a corresponding screw-tap opening in the portion G¹. The outer ends of the portions G G¹ are terminated by arbors G², whereby they are turned together. HH' are two conical pieces of packing extending from the outer sides of the jaws E, clear to and joining at the center of the hub B, so as to receive and sustain the wear due to the motion of the shaft on the journal, whether that wear takes place within the limits of the hub, or within the limits of the jaws E.

The operation of the device is as follows: The washers or packing *b* are placed in sockets or recesses, and the hub B then inserted between the jaws E. The conical packing H is then inserted. Finally the double conical portions of the journal G G¹ are introduced from opposite sides, and are run together by means of wrenches acting on the arbors G², until they have been forced sufficiently near together to make the packing fit snugly, and take up the lost motion. In this condition the coupling is ready for use until the wear has loosened the head B in the jaws E. When this occurs the double conical journal G G¹ is tightened up, and this may be repeated until the packing H is worn out, when it can be readily removed.

I do not propose to limit myself always to the employment of this packing or washers *b*, because they may be dispensed with, though preferably, they are employed. Neither do I limit myself to the coupling as a thill-coupling, because it is equally applicable on different parts of a vehicle, and in other localities where a rattling noise is caused by wear—as for instance, at the joints of a leaf-spring, and in other localities wherever the working parts that work upon each other rattle.

It will be observed that the outer ends of the conical portions G G¹ of the journal are provided, preferably, with projecting flanges I, which retain the edges of the packing H, and prevent it from working out laterally, or from separating in that direction. So also it will be noticed that the outer dimensions of the eyes in the jaws E are preferably constructed of sufficient size so that in tightening up the double conical journal these projecting flanges I may run in beyond the faces of the jaws E. It is so constructed because the tightening must necessarily be provided for, and if the flanges were not permitted to run into the eyes or beyond the faces of the jaws E, it is apparent that there should be left a space between the said flange and the faces of the jaws at the start, as it would be impossible to further tighten the packing after the flanges I should be run against the faces of the jaws E, but the construction shown in the drawings provides for these difficulties, and

leaves a neat finish and appearance at all times, and obviates the liability to collect grit.

What I claim is—

1. The coupling, consisting of the head or hub B, with the double conical eye C, the jaws provided with double conical eyes *e*, made in continuation of the eye C, the compensating double conical journal G G', and the packing H extending the whole length of the conical bearings, substantially as for the purpose described.

2. The combination, with the head B, provided with the double conical eye C, the jaws E, and the double conical compensating-journal G G', of the packing or washers *b*, substantially as and for the purpose described.

3. The combination, with the head or hub B, and jaws E, provided, respectively, with the

eyes C and *e*, and the packing H, of the double conical compensating-journal G G', provided with the projecting flange I, substantially as and for the purpose described.

4. The combination, with the packing H, the jaws E, and the journals G G', provided with the flanges I, of the eyes *e*, made sufficiently large at their outer ends to permit the flanges I to play therein, when the journal is tightened up, substantially as and for the purpose described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM C. SHIPHERD.

Witnesses:

FRANCIS TOUMEY,
JAMES P. WALSH.